

<p style="text-align: center;"><b>Notice of Allowability</b></p>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/829,272	AJIOKA ET AL.	
	<b>Examiner</b> Phuong T. Vu	<b>Art Unit</b> 2841	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 18 May 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>17Sept &amp; 22Apr 04</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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### DETAILED ACTION

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brauer discloses an electronic component 1 comprising a pair of printed circuit boards 20, 40 on which a shield 10 is formed, a spacer 30 positioned between and fixed to said pair of printed circuit boards, said spacer equipped with a shielding feature which forms as partitions at least a first cavity (one of several cavities defined by spacer) and a second cavity (another one of several cavities defined by spacer) between said pair of printed circuit boards, and a plurality of terminals (provided in unlabeled connector on edge of 20) formed on a surface of one of said pair of printed circuit boards, said surface opposite that on which said spacer is mounted. It appears that at least a first electronic component would be positioned in said first cavity and mounted on any one of said pair of printed circuit boards and at least a second electronic component would be positioned in said second cavity and mounted on any one of said pair of printed circuit boards. However, it appears that the components would be in the same frequency band and that the limitation that the first electronic component is used in a first frequency band and the second electronic component is used in a second frequency band different from said first frequency band cannot be met. As a note, the shield provided on the circuit boards is an environmental, not mechanical shield. Said terminals are necessarily electrically connected to said first electronic component and said second electronic component. However, the connection is not via transmission lines.

Phillips discloses an electronic component module comprising a pair of printed-circuit boards 140, 160 on which a shield layer 110 is formed, a spacer comprising 120, 130 positioned between and fixed to said pair of printed-circuit boards, said spacer equipped with a shielding feature. The spacer does not form as partitions at least a first cavity and a second cavity between said pair of printed-circuit boards. The reference does not disclose that at least a first electronic component positioned in said first cavity and mounted on any one of said pair of printed-circuit boards and used in a first frequency band; at least a second electronic component positioned in said second cavity and mounted on any one of said pair of printed-circuit boards, said second electronic component used second frequency band different from said first frequency band; and a plurality of terminals formed on a surface of one of said pair of printed-circuit boards, said surface opposite that on which said spacer is mounted, said terminals connected to said first electronic component and said second electronic component via transmission lines.

Sumida and Belady both disclose printed circuit board configurations with shields and spacers provided between the printed circuit boards, however do not disclose the claimed invention as recited in independent claim 1.

2. An inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Vu whose telephone number is (571) 272-2111. The examiner can normally be reached on Mon. & Tues., 7:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Phuong T. Vu  
Patent Examiner  
Group 2841